TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
R.35252

In re Application Of:

Kurt BURGER et al

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/890,532	April 15, 2002	W. Beisner	02119	1744	3306

Invention:

Method and Apparatus For Sterilizing Vessels or Articles

COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of

Kurt BURGER et al — Before the Board of Appeals

Serial No. 09/890,532 — Art Unit: 1744

Filed: April 15, 2002 — Examiner: W. Beisner

For: METHOD AND APPARATUS FOR STERILIZING VESSELS OR ARTICLES

APPELLANT'S BRIEF (37 CFR 41.37)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Brief is filed in support of the Notice of Appeal filed on February 10, 2006, appealing the Examiner's decision of making final a rejection of claims 15-29, 31 and 32.

The fee for this Appeal Brief of $500 should be charged to Deposit Account No. 07-2100 by the attached deposit account form, submitted in duplicate.

I - REAL PARTY IN INTEREST

The real party in interest in this appeal is:

Robert Bosch GmbH
Zentrale Patentabteilung
Postfach 30 02 20
D-70442 Stuttgart, Germany

II - RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences. None

III - STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION - Seventeen (17)

Claims in the application are: 15-29, 31 and 32.

B. STATUS OF ALL THE CLAIMS

1. Claims canceled: 1-14 and 30.
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 15-29, 31 and 32.
4. Claims allowed: None.
5. Claims rejected: 15-29, 31 and 32.

C. CLAIMS ON APPEAL

The claims on appeal are: 15-29, 31 and 32.

IV - STATUS OF AMENDMENTS

No amendments to the claims were filed or made subsequent to the final rejection.

V - SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 15 is directed to a method for sterilizing vessels, comprising exciting a plasma in an interior region and at an exterior region of a vessel by electromagnetic oscillations, wherein the plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed at different times by selective excitation of the plasma, the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel (2), with the result that the plasma sterilization is performed in various regions of the walls of the vessel (2) in which plasma excitation takes place as a result of a pressure sufficiently below atmospheric pressure. Spec., p. 9, l. 20 through p. 11, l. 14.

Independent claim 24 is directed to an apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising, a chamber (3), a cone (4) providing a seat for mounting a vessel within said chamber, said cone (4) having a groove (5) on its exterior surface in the region of the seat of the vessel (2), and having conduit means for communicating, via a feed line (7), an interior region of a vessel seated on the cone with a gas supply (6) or pump (10) located outside the chamber (3); a pump (9) and/or a gas supply (11) connected to the chamber (3); and a plasma source (8) mounted on the outside of the chamber (3) and operable to excite plasma in the chamber. Fig. 1; spec., p. 8, ll. 4-20.

Independent claim 26 is directed to an apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising, chain link transportation means for supporting a plurality of vessels for transportation into a chamber (3), and a duct (23) acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels (2) are carried virtually in pressure-tight fashion, and said duct (23) being connected for with a gas supply (6) or pump (10) located outside the chamber (3); a pump (9) and/or a gas supply (11) connected to said chamber (3); and a plasma source (8) mounted on the outside of the chamber (3). Fig. 3; spec., p. 5, ll. 18-25 and p. 14, l. 11 through p. 15, l. 4.

Independent claim 27 is directed to an apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising, a transport box (30) having a plurality of holes (31) therein for receiving and transporting a plurality of vessels (2) into a chamber (3), and said vessels (2) being seated with their openings virtually in pressure-tight fashion, said transport box (30) including a bottom flange for communication with a gas supply (6) or pump (10) located outside the chamber (3); a pump (9) and/or a gas supply (11) connected to the chamber (3); and a plasma source (8) mounted on the outside of the chamber (3). Fig. 4; spec., p. 6, ll.1-8 and p. 15, l. 5 through p. 16, l. 4.

VI - GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 15-23, 29, 31 and 32 stand rejected under 35 USC 103(a) as unpatentable over Fraser et al.(US 3,851,436).

Claims 24, 25, 27 and 28 stand rejected under 35 USC 103(a) as unpatentable over Fraser et al in view of Hoeck (US 4,544,529) or Schultze (US 2,501,193).

Claim 26 stands rejected under 35 USC 103(a) as unpatentable over Fraser et al in view of Hoeck or Schultze in combination with Schroeder et al (US 6,328,928 or WO 98/30491).

VII - ARGUMENTS

The §103 rejection of claims 15-23, 29, 31 and 32

Claims 15-23, 29, 31 and 32 stand rejected under 35 USC 103(a) as unpatentable over Fraser et al (US 3,851,436).

Fraser et al teaches a sterilizing and packaging process and apparatus using gas plasma, particularly, for articles sufficiently fragile so that they cannot be subjected to a high pressure differential or high temperatures. Col. 1, ll. 3-9

In the apparatus illustrated in Fig. 1, gas, e.g., argon, is supplied from a tank 3 through a supply valve 15, a flow meter 4 and a regulating valve 11 to a plasma production conduit 5, where the gas is subjected to a radio frequency field created by electrodes 6 and radio-frequency generator 7. Gas plasma produced at the conduit 5 enters an evacuated sterilization chamber 1 containing the article to be sterilized. A vacuum pump 13 is connected to the chamber 1 to evacuate the chamber. The quantity of gas plasma flowing through the sterilization chamber 1 is determined by the flowmeter, the valve 11 and the pressure in the sterilization chamber. Col. 1, ll. 45-61. The article to be sterilized is subjected to the flow of gas plasma for a period of time sufficient to effect sterilization after which the radio-frequency generator 7 is de-energized, the gas valve 15 is closed and the vacuum pump 13 is stopped, the chamber is opened and the sterilized article is removed. Col. 2, ll. 16-23.

The apparatus illustrated in Fig. 2 is of the type adapted to the sterilization of artificial blood oxygenators 2a, 2b, 2c. Col. 2, ll. 24-26. In Fig. 2, gas to be excited into plasma is

supplied from a tank 3 through a shutoff valve 15 and a flowmeter 4 to a manifold 5'. Flow of plasma gas through the sterilization chamber 1' is induced by suction created by the vacuum pump 13. Individual pipes 5" connect the manifold 5' to the individual oxygenators 2a, 2b and 2c. The gas is subjected to a radio frequency field created by electrodes 6' and radio-frequency generator 7

Figs. 3 and 4 show the blood oxygenators in greater detail. In Fig. 3, a continuous flow of gas plasma is supplied to the interior of the oxygenator 2' from a pipe 20 and discharged through an exit 21. Col. 2, ll. 61-64. Fig. 3 also shows an enclosure or package 23, e.g., a plastic bag, for the oxygenator 2'. The enclosure is sealed around the inlet 20 and exit 21 and has an inlet 24 and an outlet 25 for flow of gas plasma between the enclosure and the exterior of the oxygenator and the interior of the sterilization chamber 1'. Col. 3, ll. 17-27.

In the construction shown in Fig. 4, the gas plasma flows through the interior of the oxygenator 2' and then over the exterior of the oxygenator sequentially. The plasma exits from the interior of the oxygenator through exit 21' and discharges into the interior of the package 23' and then from the interior of the package to the interior of the sterilization chamber through exit 25' located in the package. Col, 3, ll. 28-39.

It is of particular interest that Fraser et al emphasizes the importance of exposing the surfaces to be sterilized in a low pressure atmosphere and of a continual flow of gas plasma through the apparatus and over the surface of the article to be sterilized in effecting the sterilization operation in a more efficient and expeditious manner. Col. 3, ll. 40-47.

Appellants' claim 15 is directed to a method for sterilizing vessels, comprising exciting a plasma in an interior region and at an exterior region of a vessel to be sterilized by electromagnetic oscillations, wherein the plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed **at different times** by selective excitation of the plasma, **the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel (2)**, with the result that the plasma sterilization is performed in various regions of the walls of the vessel (2) in which plasma excitation takes place as a result of a pressure sufficiently below atmospheric pressure.

In the invention defined by claim 15, the plasma is selectively excited on the inside and outside of the vessel at different times by separate control of the pressure inside and outside the vessel. Unlike Fraser et al, in the appellants' invention, no continuous plasma flow is generated. In appellants' invention, the gas generating the plasma under suitable conditions is located in both the chamber 3 and the interior of the vessel. The pressure prevailing in the chamber 3 is adjusted, in the exemplary embodiment of applicants' Fig. 1, by the pump 9, while in the exemplary embodiment of applicants' Fig. 2, the pressure is controlled via the gas supply 11. Regardless of the adjustment of the pressure in the interior of the chamber 3, separate means 6 (Fig. 1) or 10 (Fig. 2) are provided, which independently of the pressure adjustment within the chamber 3, vary the pressure in a purposeful way inside the vessel 2 to be sterilized. The crux of applicants' invention resides in the control of the pressure in the interior of the chamber 3 and inside the vessel 2 independently of one another. This feature of the invention is expressed in claim 15 by the language "the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel (2)."

Fraser does not teach or suggest that plasma sterilization in the interior region of the oxygenators 2a, 2b, 2c and at the exterior region of the oxygenators are performed at different times by selective excitation of the plasma, the selective excitation of the plasma being effected by separate control of the pressure inside and outside the oxygenators. In Fraser et al, the plasma is excited outside the sterilization chamber 1 in the conduit 5. The same is true of the apparatus illustrated in Figs. 2-4. Further, in Figs. 3 and 4, the pressure in the interior of the oxygenators 2', in the interior of the packages 23, 23' and in the interior of the sterilization chamber 1 is the same.

The examiner has rejected claim 15 on the teachings of Fraser et al alone. No reference has been applied to show that it was known in the art to control the pressure in a purposeful way inside a vessel to be sterilized independently of the pressure inside the sterilization chamber, i.e., on the outside region of the vessel to be sterilized, so that plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed **at different times** by selective excitation of the plasma.

While the examiner concludes that it would have been obvious to sequentially introduce plasma into the inlets 20 and 24 of Fig. 3 using separately controlled plasma sources, no reference has been cited to support this finding of fact. It is well established in case law that every finding of fact by the examiner must be supported by substantial evidence. No evidence is found in this case. For this reason alone, the examiner has failed to establish a prima facie case of obviousness.

In addition, the examiner has not explained why it would have been obvious to one of ordinary skill to have completely disregarded or abandoned an essential characteristic of Fraser

et al's method and apparatus, namely, the continuous flow of plasma through the apparatus and over the surface of the article to be sterilized in order to effect the sterilization operation in a more efficient and expeditious manner. Why would one of ordinary skill have substituted separately controlled plasma sources for the single plasma source taught by Fraser et al? Where is the teaching in the art that the use of separately controlled plasma sources is more efficient and expeditious than the single source taught by Fraser et al? The answer is, there is none, at least not in the art applied in the rejection.

However, assuming arguendo, that it would have been obvious to use separately controlled plasma sources at the inlets 20 and 24 in Fig. 3 of Fraser et al, this does not address the language of applicants' claim 15 which recites that "the selective excitation of the plasma being effected by separate control of the **pressure** inside and outside the vessel (2)" or the language which requires that "plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed **at different times** by selective excitation of the plasma."

In Fraser, the pressure is not controlled with a view to a plasma generation. The plasma generation is effected solely by means of the RF oscillator 7. The pressure in Fraser controls only the quantity of the plasma gas that flows through the sterilization chamber (col. 1, ll. 54-58). On the other hand, Fraser discloses that the surface should be exposed to a certain low atmospheric pressure, to improve the sterilization (col. 3, ll. 44-48). However, controlling the excitation of the plasma by controlling the pressure in the interior of the vessel and at the exterior of the vessel to excite a plasma either in the interior of the vessel or at the exterior wall of the vessel is neither disclosed nor suggested by Fraser.

Further, while in relation to the apparatus illustrated in Fig. 4, Fraser et al does teach that the gas plasma flows through the interior of the oxygenator 2' and then over the exterior of the oxygenator sequentially, this is not a teaching that plasma sterilization in the interior region of the oxygenator and at the exterior region of the oxygenator are performed **at different times**. In Fraser's apparatus and method, actual sterilization requires that the article to be sterilized be exposed to plasma flow for a period of time. See, col. 2, ll. 12-15. Any reasonable person having read the disclosure of Fraser would understand that gas plasma entering the inlet 20 in Fig. 4 would quickly flow out of the exit 21' into the interior of the package 23' before the interior of the oxygenator was sterilized. In effect, Fraser et al reasonable teaches that the interior of the oxygenator, the exterior of the oxygenator and interior of the package are all sterilized at the same time, not at different times as required by claim 15.

There is still another problem with the examiner's rejection. The examiner uses Fraser's Fig. 3 to suggest that it would have been obvious to use separately controlled plasma sources at the inlets 20 and 24, but there is no teaching in Fraser that, in the apparatus of Fig. 3, the gas plasma flows through the interior of the oxygenator 2' and then over the exterior of the oxygenator sequentially. In other words, there is no teaching that plasma sterilization in the interior region of the oxygenator and at the exterior region of the oxygenator are performed **at different times** as required by claim 15.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Fraser et al does not teach or suggest a method for sterilizing vessels of the type recited in claim 15 in which the plasma sterilization in the interior region of the vessel and at the exterior

region of the vessel are performed at different times by selective excitation of the plasma, the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel. Accordingly, claim 15 and claims 16-23, 29, 31 and 32, dependent on claim 15, are not rendered obvious by the teachings of Fraser et al alone.

The § 103 rejection of claims 24, 25, 27 and 28

Claims 24, 25, 27 and 28 stand rejected under 35 USC 103(a) as unpatentable over Fraser et al in view of Hoeck (US 4,544,529) or Schultze (US 2,501,193).

Independent claim 24 is directed to an apparatus for sterilizing vessels comprising, inter alia, "a cone (4) providing a seat for mounting a vessel within said chamber, said cone (4) having a groove (5) on its exterior surface in the region of the seat of the vessel (2), and having conduit means for communicating, via a feed line (7), an interior region of a vessel seated on the cone with a gas supply (6) or pump (10) located outside the chamber (3)."

Independent claim 27 is directed to an apparatus for sterilizing vessels comprising, inter alia, "a transport box (30) having a plurality of holes (31) therein for receiving and transporting a plurality of vessels (2) into a chamber (3), and said vessels (2) being seated with their openings virtually in pressure-tight fashion, said transport box (30) including a bottom flange for communication with a gas supply (6) or pump (10) located outside the chamber (3)."

Hoeck teaches an apparatus for sterilizing baby bottles with steam using an egg cooker. To support the nipples and bottles within the egg cooker, Hoeck teaches an insert 3 having upstanding ribs 13 (see, Figs. 1 and 2) forming seats 7. Within each seat 7 for the bottles 8, a frustoconical funnel 15 delivers the steam rising through an opening 18 to a tube 10 which carries the steam close to the upper end of the bottle.

Schultze also teaches an apparatus for sterilizing baby bottles using a warmer including an adaptor (Fig. 4) formed with an inverted pan base 8 with an upright tube 9. The base has a flat top 10 formed with one or more grooves 11 so that when the baby bottle is inverted and supported on the top 10 steam from the dome 3 may exhaust into a chamber 12 of the adaptor base into the tube and into the housing T around the outside of the bottle.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). None of Fraser et al, Hoeck and Schultze teaches or suggests an apparatus of the type recited in claim 24 including a cone providing a seat for mounting a vessel within a chamber, said cone having a groove on its exterior surface in the region of the seat of the vessel, and having conduit means for communicating, via a feed line, an interior region of a vessel seated on the cone with a gas supply or pump located outside the chamber or an apparatus of the type recited in claim 27 including a transport box having a plurality of holes therein for receiving and transporting a plurality of vessels into a chamber, and said vessels being seated with their openings virtually in pressure-tight fashion, said transport box including a bottom flange for communication with a gas supply or pump located outside the chamber. Accordingly, claims 24 and 27 and claims 25 and 28, dependent thereon, are not rendered obvious by the combined teachings of Fraser et al, Hoeck and Schultze.

The § 103 rejection of claim 26

Claim 26 stands rejected under 35 USC 103(a) as unpatentable over Fraser et al in view of Hoeck or Schultze in combination with Schroeder et al (US 6,328,928 or WO 98/30491).

Claim 26 is directed to an apparatus for sterilizing vessels comprising, inter alia, a "chain link transportation means for supporting a plurality of vessels for transportation into a chamber (3), and a duct (23) acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels (2) are carried virtually in pressure-tight fashion, and said duct (23) being connected for with a gas supply (6) or pump (10) located outside the chamber (3)."

Schroeder teaches a method and a machine for preparing and filling containers with a product including conveying equipment 2 constructed as an endless chain conveyor and comprises bottle carriers 5, which can be swivelled relative to the conveying chains 3, 4 on the outside and locked in two different swiveling positions and which in each case have a number of bottle holders 7, disposed next to one another transversely to the transporting direction 6. The bottle carriers 5 form a modular unit, which extends transversely essentially over the width of the conveying equipment 2, and are supported consecutively at the conveying chains 3, 4 at mutually identical distances.

None of Fraser et al, Hoeck, Schultze and Schroeder et al teaches or suggests an apparatus of the type recited in claim 26 including a chain link transportation means for supporting a plurality of vessels for transportation into a chamber, and a duct acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels are carried virtually in pressure-tight fashion, and said duct being connected for with a gas supply or pump located outside the chamber. Therefore, claim 26 is not rendered obvious by the combined teachings of Fraser et al, Hoeck, Schultze and Schroeder et al.

An appendix containing a copy of the claims involved in this appeal is attached.

Respectfully submitted,

Dated: April 10, 2006

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VIII - CLAIMS APPENDIX

15. (Rejected) A method for sterilizing vessels, comprising exciting a plasma in an interior region and at an exterior region of a vessel by electromagnetic oscillations, wherein

- the plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed at different times by selective excitation of the plasma, the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel (2), with the result that the plasma sterilization is performed in various regions of the walls of the vessel (2) in which plasma excitation takes place as a result of a pressure sufficiently below atmospheric pressure.

16. (Rejected) The method of claim 15, further comprising

- carrying the vessel (2) into a chamber (3), in which at least a virtual vacuum can be produced, and

- supplying a gas suitable for exciting a plasma into the interior region of the vessel (2) via a feed line (7) shielded from the chamber (3), and establishing and maintaining a gas pressure in the interior region of the vessel such that a plasma is excited there and maintained for a predetermined length of time.

17. (Rejected) The method of claim 16, wherein

- said gas pressure and said plasma in the interior region of the vessel (2) are maintained by means of an adequate level of the pressure value in the interior region of the vessel (2)

compared to the pressure value in the chamber (3), even when there is a predetermined flow of gas out of the vessel (2) into the chamber (3) and an ensuing removal of gas from the chamber (3) by suction.

18. (Rejected) The method of claim 16, further comprising,

- initially evacuating said chamber (3), and then introducing gas into the vessel (2) for exciting the plasma in the interior region of the vessel (2).

19. (Rejected) The method of claim 18, further comprising the step of

- supplying a gas into the chamber (3) for exciting a plasma in the chamber (3) and thus on the exterior region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).

20. (Rejected) The method of claim 15, further comprising the steps of

- placing the vessel (2) into the chamber (3), into which a gas suitable for exciting a plasma is carried, and

- establishing at least a partial vacuum in the interior region of the vessel (2), via a feed line (7) shielded from the chamber (3), and

- establishing and maintaining a gas pressure in the interior region of the vessel (2) such that a plasma is excited and maintained for a predetermined length of time in the interior region of the vessel (2).

21. (Rejected) The method of claim 20, wherein

- said gas pressure and said plasma in the interior region of the vessel (2) are maintained by making the pressure in the interior region of the vessel (2) sufficiently low compared to the pressure in the chamber (3), even when there is a predetermined flow of gas out of the chamber (3) into the vessel (2) and an ensuing removal of gas from the vessel (2) by suction.

22. (Rejected) The method of claim 20, comprising,

- in a first method step, the chamber (3) is supplied with the gas, and

- in a second method step, the vessel (2) is evacuated until the plasma in the interior region of the vessel is excited as a result of the incoming flow of the gas from the chamber (3).

23. (Rejected) The method of claim 22, wherein

- in a third method step, the gas supply into the chamber (3) is stopped, for excitation of a plasma in the chamber (3) and hence on the outside region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).

24. (Rejected) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a chamber (3),

- a cone (4) providing a seat for mounting a vessel within said chamber, said cone (4) having a groove (5) on its exterior surface in the region of the seat of the vessel (2), and having

conduit means for communicating, via a feed line (7), an interior region of a vessel seated on the cone with a gas supply (6) or pump (10) located outside the chamber (3);

- a pump (9) and/or a gas supply (11) connected to the chamber (3); and

- a plasma source (8) mounted on the outside of the chamber (3) and operable to excite plasma in the chamber.

25. (Rejected) The apparatus of claim 24, further comprising

- said groove (5) having means for controlling the gas flowing through said groove between an interior region of a vessel seated on said cone and an interior region of said chamber (3).

26. (Rejected) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- chain link transportation means for supporting a plurality of vessels for transportation into a chamber (3), and a duct (23) acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels (2) are carried virtually in pressure-tight fashion, and said duct (23) being connected for with a gas supply (6) or pump (10) located outside the chamber (3);

- a pump (9) and/or a gas supply (11) connected to said chamber (3); and

- a plasma source (8) mounted on the outside of the chamber (3).

27. (Rejected) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a transport box (30) having a plurality of holes (31) therein for receiving and transporting a plurality of vessels (2) into a chamber (3), and said vessels (2) being seated with their openings virtually in pressure-tight fashion, said transport box (30) including a bottom flange for communication with a gas supply (6) or pump (10) located outside the chamber (3);

- a pump (9) and/or a gas supply (11) connected to the chamber (3); and

- a plasma source (8) mounted on the outside of the chamber (3).

28. (Rejected) The apparatus of claim 24, wherein

- the vessels (2) to be sterilized are of glass or plastic.

29. (Rejected) The method of claim 17, further comprising,

- initially evacuating said chamber (3), and then introducing gas into the interior region of the vessel (2) for exciting the plasma in the interior region.

31. (Rejected) The method of claim 21, comprising,

- in a first method step, the chamber (3) is supplied with the gas, and

- in a second method step, the vessel (2) is evacuated until the plasma in the interior region of the vessel is excited as a result of the incoming flow of the gas from the chamber (3).

32. (Rejected) The method of claim 31, wherein

- in a third method step, the gas supply into the chamber (3) is stopped, for excitation of a plasma in the chamber (3) and hence on the outside region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).

IX - EVIDENCE APPENDIX

NONE

X - RELATED PROCEEDINGS APPENDIX

NONE